Please make the following amendment to the claims.

1. (Previously Presented) A Taylor reactor for conducting material conversions, comprising:

a) an annular reactor volume defined by an external reactor wall, a concentrically or eccentrically disposed rotor that extends the length of the reactor, a reactor floor, and a reactor lid,

b) at least one means for metered addition of reactants into the annular reactor volume, and

c) a means for the discharge of product from the annular reactor volume,

wherein

d) during a conversion within the annular reactor volume there is a change in a viscosity v of a reaction medium,

e) one or more of the reactor wall and the rotor are geometrically designed such that the conditions for Taylor vortex flow are met over essentially the entire reactor length of the annular reactor volume,

f) the reactor is not mounted horizontally, and the discharge means is mounted higher than the metered addition means so that a flow through the reactor is counter to gravity, and

g) wherein the external reactor wall and the rotor rotate in the same direction, the angular velocity of the rotor being greater than that of the external reactor wall.

2. (Canceled)

3. (Previously Presented) The Taylor reactor of claim 1, wherein the external reactor wall and the rotor have an essentially circular circumference over the entire reactor length, as viewed in cross section.

4. (Previously Presented) The Taylor reactor of claim 1, which is mounted vertically, the reaction medium being moved against gravity.

5. (Previously Presented) The Taylor reactor of claim 1, wherein the rotor is mounted centrically.

6. (Previously Presented) The Taylor reactor of claim 1, wherein the means for the discharge of the product is disposed at the highest point of the reactor lid.

7. (Previously Presented) The Taylor reactor of claim 1, wherein one or more of the external reactor wall and the rotor (2) are geometrically designed such that an annular gap widens in the flow direction.

8. (Previously Presented) The Taylor reactor of claim 7, wherein the circumference of the external reactor wall (1) increases in the flow direction.

9. (Previously Presented) The Taylor reactor of claim 7, wherein the external reactor wall has the form of a single frustum.

10. (Previously Presented) The Taylor reactor of claim 1, wherein one or more of the external reactor wall and the rotor are geometrically designed such that an annular gap narrows in the flow direction.

11. (Previously Presented) The Taylor reactor of claim 10, wherein the circumference of the external reactor wall (1) reduces in the flow direction.

12. (Previously Presented) The Taylor reactor of claim 10, wherein the external reactor wall has the form of a single frustum.

Claims 13-20(Canceled)

21. (Previously Presented) The Taylor reactor of claim 8, wherein the circumference of rotor (2) remains constant.

22. (Previously Presented) The Taylor reactor of claim 8, wherein the circumference of rotor (2) increases.

23. (Previously Presented) The Taylor reactor of claim 8, wherein the circumference of rotor (2) decreases.

24. (Previously Presented) The Taylor reactor of claim 7, wherein the external reactor wall is composed of a plurality of frusta.

25. (Previously Presented) The Taylor reactor of claim 11, wherein the circumference of the rotor remains constant.

26. (Previously Presented) The Taylor reactor of claim 11, wherein the circumference of the rotor increases.

27. (Previously Presented) The Taylor reactor of claim 11, wherein the circumference of the rotor decreases.

28. (Previously Presented) The Taylor reactor of claim 12, wherein the external reactor wall is composed of a plurality of frusta.